

1 I claim:

2 1. In an elongated electric motor for a submersible pump having a cylindrical housing, a
3 stator mounted in the housing for producing a magnetic field when supplied with electrical power,
4 a rotatable shaft installed within the stator, a rotor comprised of spaced apart rotor sections mounted
5 to the shaft, an improved bearing assembly mounted between two of the adjacent rotor sections for
6 supporting the shaft, comprising in combination:

7 a stationary bearing body that rotatably receives the shaft, the bearing body having a
8 cylindrical outer periphery with a cavity extending to the outer periphery of the bearing body; and
9 a coiled member contained in the cavity, having an outer portion that frictionally engages an
10 inner wall of the stator, preventing rotation of the bearing body and stabilizing the shaft.

11 2. The motor according to claim 1, wherein the coiled member is made of a metallic material.

12 3. The motor according to claim 1, wherein the coiled member is a continuous coiled element
13 extending entirely around the outer periphery of the bearing body.

14 4. The motor according to claim 1, wherein the coiled member comprises a plurality of coiled
15 member segments that are spaced apart from each other around the outer periphery of the bearing
16 body.

17 5. The motor according to claim 1, wherein the coiled member is circular in cross-section and
18 has a cross-sectional diameter greater than a radial depth of the cavity.

1 6. The motor according to claim 1, wherein the cavity extends circumferentially along the
2 outer periphery of the bearing body, and the coiled member has centerline that extends
3 circumferentially around the bearing body.

4 7. The motor according to claim 1, wherein the coiled member has a radial dimension from
5 an inner portion to the outer portion that is greater than a radial dimension from a base of the cavity
6 to the inner wall of the stator while the coiled member is in an undeflected state.

7 8. An elongated electric motor, comprising in combination:
8 a cylindrical housing;
9 a stator mounted in the housing for producing a rotating field when supplied with electrical
10 power;
11 a rotatable shaft installed within the stator;
12 a rotor comprised of spaced-apart rotor sections mounted on the shaft;
13 a stationary bearing body that rotatably receives the shaft and is located between two of the
14 rotor sections, the bearing body having a cylindrical outer periphery provided with a cavity
15 extending circumferentially along the outer periphery of the bearing body; and
16 a metallic coiled member contained in the cavity, the coiled member being circular in cross-
17 section with a cross-sectional diameter greater than a radial depth of the cavity, with an outer portion
18 that extends circumferentially along the outer periphery of the bearing body and frictionally engages
19 an inner wall of the stator, preventing rotation of the bearing body and stabilizing the shaft.

1 9. The motor according to claim 8, wherein the coiled member is a continuous coiled element
2 extending entirely around the outer periphery of the bearing body.

3 10. The motor according to claim 8, wherein the coiled member comprises a plurality of
4 coiled member segments that are spaced apart from each other around the outer periphery of the
5 bearing body.

6 11. The motor according to claim 8, wherein the cross-sectional diameter of the coiled
7 member while undeflected is greater than the radial dimension from a base of the cavity to the stator
8 inner wall.

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12. An improved bearing assembly for mounting between adjacent rotor sections of an
elongated electric motor having a stator, a rotatable shaft installed within the stator, and a rotor
comprised of spaced apart rotor sections mounted to the shaft, the bearing assembly comprising in
combination:

a stationary bearing body adapted to rotatably receive the shaft, the bearing body having a
cylindrical outer periphery with a circumferentially extending cavity therein, the cavity having an
outward facing base; and

a metallic coiled member contained in the cavity, the coiled member having a circular cross-
section with a cross-sectional diameter greater than a radial dimension of the cavity, having an inner
portion in contact with the base and an outer portion protruding past the outer periphery for contact
with the stator.

1 13. The bearing assembly according to claim 12, wherein the coiled member is a continuous
2 coiled element extending entirely around the outer periphery of the bearing body.

3 14. The bearing assembly according to claim 12, wherein the coiled member comprises a
4 plurality of coiled member segments that are spaced apart from each other around the outer periphery
5 of the bearing body.